Biotroph

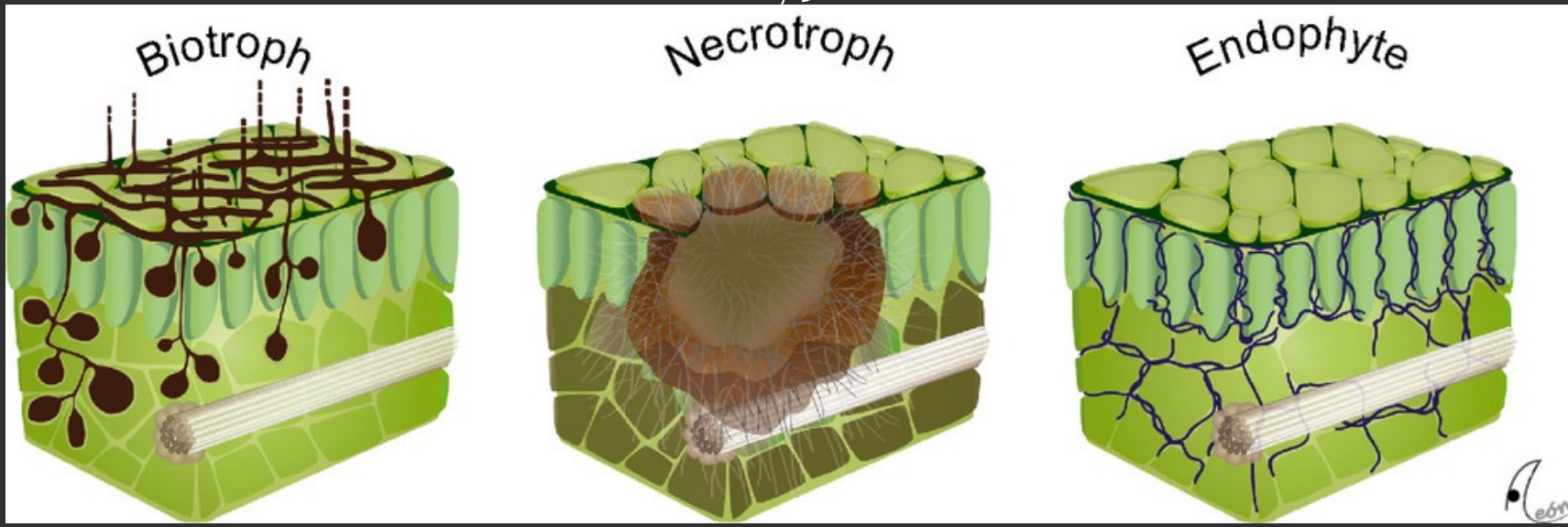
Derive carbon from living cells.

→ host remains alive...

Necrotroph

Derives carbon by killing cells and using cell contents for energy

1000s to 10,000s of endophytes living on plants w/o disease symptoms



Division Basidomycota

Order Agaricales
Order Russulales

Order Polyporales

Order Puccinales

Division Ascospora

Order Diaporthales

Order Erysiphales

Order Pezizales

Division Basidomycota

Order Agaricales
Order Russulales

Order Polyporales

Order Puccinales

Division Ascospora

Order Diaporthales

Necrotrophic fungi
... Chestnut blight

Order Erysiphales

Order Pezizales

Division Basidomycota

Order Agaricales
Order Russulales

Order Polyporales

Order Puccinales

Division Ascospora

Order Diaporthales

Order Erysiphales

Powdery Mildew
→ Biotrophic

Order Pezizales

Division Basidomycota

Rock Rot Fungi:

Order Agaricales
Order Russulales

Saprotrophs and Mycorrhizae

Order Polyporales

Division Ascospora

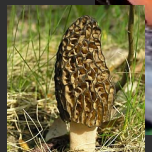
Order Diaporthales

Order Erysiphales

Black Morel ???

Order Pezizales

Cup fungi: Mycorrhizal OR Saprotrophic



Order Puccinales

Division Basidomycota

Order Agaricales
Order Russulales

Order Polyporales

Saprotrophs
→ Stem rot
"Conks"

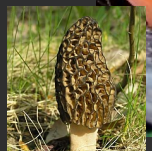
Order Puccinales

Division Ascospora

Order Diaporthales

Order Erysiphales

Order Pezizales



Division Basidomycota

Order Agaricales
Order Russulales

Order Polyporales

Order Puccinales

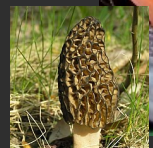
Rust Fungi:
Biotrophic
Necrotrophic
"Puccini" mildew

Division Ascospora

Order Diaporthales

Order Erysiphales

Order Pezizales



Agarwood


eau de parfum
HINOKI FANTÔME
Boy Smells
wonderful fine fragrance

Rot! of Wood
... or leaves

Decomposition!

→ Wood is made of

- Lignin!
- Glucose (ATP)
- Cellulose!

Brown Rot

→ Fungi: release Hydrogen Peroxide H_2O_2

breaks down cellulose, but not lignin

- H_2O_2 seeps into wood; as cellulose degrades the wood shrinks and fractures.
  - Stain of brown color

White Rot

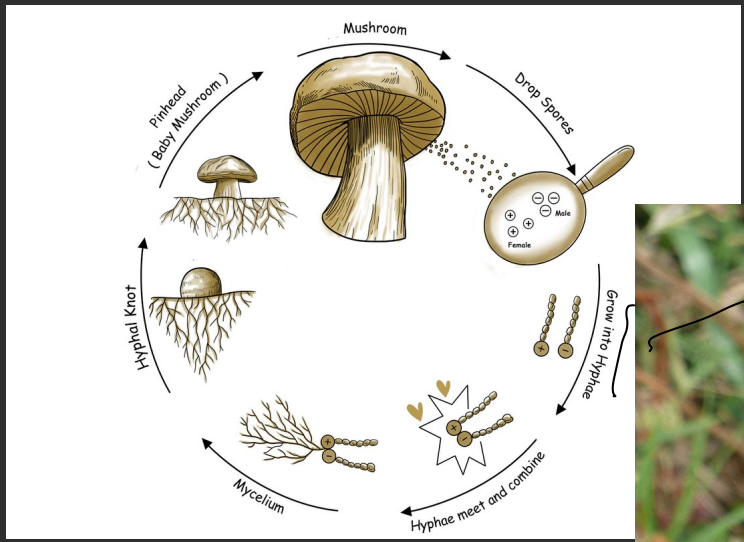
"Stringy Rot" = "White-Stringy Rot"

- Cellulose and lignin are broken down by....

lots of compounds...

the biochemistry is complex and unresolved.

Requires saturation of wood.



Stem Rots!

Spores must enter a tree....

via a wound

Hyphae grow inside of tree to decompose..

heart wood... bark

dead material - - -

Fomitopsis pinicola

Red Belt Fungus

- Brown rot fungus
- Living to dicing

Firs, Pines, Spruces, Hemlocks, . . .

Weakens stems... broke tops.

Degrades wood quality

Echinodontium tinctorium

~~Indian~~ Paint Fungus

"White Rot" but with red pigmentation

- Attacks living trees; guarantees stem collapse

Hosts of most conifers.

Stereum sanguinolentum

Heart Rot

"Red heart Rot"

- Common in most conifers. Rare in ponderosa pine

Cytospora Canker
Valsa sordida

Stem rot that creates cankers in bark of aspen

Ceratocystis populicola

Canker forming

"Black canker"

→ substantially weaken aspen stems.